Introgression with Neanderthals

The interbreeding between Anatomically Modern Humans dispersing from Africa and Neanderthals established in Europe is well documented. Few are aware however, of the long-lasting genetic impact of this introgression on modern health in non-African modern populations.

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Depression

There are many case of alleles inherited from Neanderthals combining with environmental factors to exhibit negative phenotypic outcomes such as depression. Neanderthal genes involved in controlling circadian rhythms combine with sunlight (or lack thereof) to cause increased likelihood of depression (2.03%).

Heart Disease

It was discovered from a phenome-wide association study that single nucleotide polymorphisms in regions of Neanderthal DNA were associated with a statistically significant increased risk of heritable coronary atherosclerosis as well as 1.39% increase of myocardial infarction (heart attack).

Koller, D. *et al.* (2022) 'Denisovan and Neanderthal archaic introgression differentially impacted the genetics of complex traits in modern populations', *BMC Biology*, 20(1). doi:10.1186/s12915-022-01449-2.

Corona Virus

In 2020 an article was published linking a gene cluster inherited from Neanderthals as a risk factor in respiratory failure following contraction of COVID-19 and is carried by about 50% of South Asians and 16% of Europeans.

Zeberg, H. and Pääbo, S. (2020) 'The major genetic risk factor for severe COVID-19 is inherited from neanderthals', *Nature*, 587(7835), pp. 610–612. doi:10.1038/s41586-020-2818-3.